

CLAIMS

1. A sprinkler head comprising:
  - a first housing connected to a water supply pipe disposed inside a building ceiling;
  - 5 a second housing coupled to the first housing and fixed to the ceiling surface;
  - a deflector adhered to the first housing in a sealing-available manner for spraying water all around at the time of a fire occurrence by being detached from the first housing;
- 10 a locking unit locked inside the second housing for maintaining the sealing state between the deflector and the second housing; and
  - a heat responding unit exposed to outside of the ceiling for sensing heat at the time of a fire occurrence and thus releasing a locking of the locking unit;
- 15 wherein the second housing is provided with a locking groove formed in a circumferential direction at an inner side with a prescribed height from a lower surface of the second housing and an air flow collecting portion for collecting air flow heated when a fire breaks out and generating a swirl flow; and
- 20 the locking unit having a locking ring locked at the locking groove and first and second loading plates for pressurizing the locking ring thus to widen is inserted into the second housing.

2. The sprinkler head of claim 1, wherein the air flow

collecting portion is formed at an inner portion of the lower portion of the second housing with a certain space, air flow along the ceiling is introduced into the air flow collecting portion thus to stay temporarily and to generate a swirl flow, and thereby heat is fast transmitted to the first heat 5 collecting plate.

3. The sprinkler head of claim 1, wherein the heat responding unit is composed of first, second, and third heat collecting plates, and the first, second, and third heat collecting plates have certain intervals 10 therebetween in order to delay time that air flow passes at the time of a fire occurrence.

4. The sprinkler head of claim 3, wherein the first heat collecting plate is provided with a convex portion protruded with a certain 15 width downwardly at the center thereof, the second heat collecting plate is formed as a disc type, the third heat collecting plate is provided with a convex portion protruded upwardly at the center of thereof whereby the first, second, and third heat collecting plates come in contact with each other sequentially, and the first, second, and the third heat collecting plates 20 have the same diameter.